

IN THE CLAIMS:

Please **AMEND** claims 1, 11, 12, and 14, and **ADD** claims 21 and 22 in accordance with the following:

1. (CURRENTLY AMENDED) A method of forming a first state and a second state alternatively and sequentially on an optical recording medium in response to input data having a first level and a second level in an optical recording apparatus, the method comprising:

generating a recording waveform which includes a first multi-pulse corresponding to the first level of the input data and having a plurality of first pulses alternating between a low first multi-pulse power level and a high first multi-pulse power level, and a second multi-pulse preceding the first multi-pulse which corresponds to the second level of the input data and has a plurality of second pulses alternating between a low second multi-pulse power level and a high second multi-pulse power level,

wherein:

the high second multi-pulse power level is set between the low and high first multi-pulse power levels,

the low first multi-pulse power level is less than the low second multi-pulse power level, and

a leading one of the second pulses is set to the low second multi-pulse power level and a power level of a period between an end of the second multi-pulse and a first one of the pulses of the first multi-pulse is set to the high second multi-pulse power level.

2. (ORIGINAL) The method of claim 1, further comprising:

forming the first state on the optical recording medium according to the first pulses of the first multi-pulse; and

forming the second state on the optical recording medium according to the second pulses of the second multi-pulse.

3. (ORIGINAL) The method of claim 1, further comprising:

forming a mark as the first state on the optical recording medium according to the first multi-pulse; and

forming a the space as the second state on the optical recording medium according to the second multi-pulse.

4-6. (CANCELLED)

7. (ORIGINAL) The method of claim 1, further comprising:
generating information data representing a characteristic of one of the first multi-pulse
and the second multi-pulse.

8. (ORIGINAL) The method of claim 7, further comprising:
rotating the optical recording medium in response to the information data.

9. (ORIGINAL) The method of claim 7, further comprising:
rotating the optical recording medium at a speed corresponding to the information data.

10. (ORIGINAL) The method of claim 7, further comprising:
recording the information data on the optical recording medium.

11. (CURRENTLY AMENDED) A method of forming a first state and a second state
alternatively and sequentially on an information storage medium in response to input data having
a first level and a second level, respectively, in a recording apparatus, the method comprising:
generating a recording waveform which comprises a recording pattern having a recording
pattern multi-pulse corresponding to the first level of the input data, an erase pattern preceding
the recording pattern and having an erase pattern multi-pulse corresponding to the second level
of the input data, and a cooling pulse concatenating the erase pattern with a preceding other
recording pattern,

wherein:

the erase pattern multi-pulse alternates between a low multi-pulse level and a
high multi-pulse level,

the recording pattern multi-pulse alternates between a low recording multi-pulse
level and a high recording multi-pulse level.

the low recording multi-pulse level is less than the low multi-pulse level of the
erase pattern, and

a leading pulse of the erase pattern multi-pulse is set to the low multi-pulse level
and a power level of a period between an end of the erase pattern multi-pulse and a first pulse of
the recording pattern multi-pulse is set to the high multi-pulse level.

12. (CURRENTLY AMENDED) A method of forming a first state and a second state

alternatively and sequentially on an information storage medium in response to input data having a first level and a second level, respectively, in a recording apparatus, the method comprising:

generating a recording waveform which comprises a recording pattern corresponding to the first level of the input data and having a recording pattern multi-pulse, an erase pattern preceding the recording pattern and having an erase pattern multi-pulse corresponding to the second level of the input data, and a cooling pulse concatenating the erase pattern with a preceding other recording pattern,

wherein:

the erase pattern multi-pulse alternates between a low multi-pulse level and a high multi-pulse level,

the recording pattern multi-pulse alternates between a low recording multi-pulse level and a high recording multi-pulse level.

the low recording multi-pulse level is less than the low multi-pulse level of the erase pattern, and

a leading pulse of the erase pattern multi-pulse is set to the high multi-pulse level and a power level of a period between an end pulse of the erase pattern multi-pulse and a first pulse of the recording pattern multi-pulse is set to the high multi-pulse level.

13. (CANCELLED)

14. (CURRENTLY AMENDED) A method of forming a first state and a second state alternatively and sequentially on an optical recording medium in response to input data having a first level and a second level in an optical recording apparatus, the method comprising:

generating a recording waveform which includes a first multi-pulse having a plurality of first pulses corresponding the first level of the input data and a second multi-pulse preceding the first multi-pulse and having a plurality of second pulses corresponding to the second level of the input data which alternate between a low multi-pulse level and a high multi-pulse level,

wherein:

the first multi-pulse alternates between a first low pulse level and a first high pulse level.

the first low pulse level is less than the low multi-pulse level of the second multi-pulse, and

a leading second pulse is set to the high multi-pulse level and a power level of a period between an end second pulse of the second multi-pulse and a leading first pulse is set to

the high multi-pulse level.

15. (CANCELLED)

16. (PREVIOUSLY PRESENTED) A method of forming a first state and a second state alternatively and sequentially on an optical recording medium in response to input data having a first level and a second level in an optical recording apparatus, the method comprising:

generating a recording waveform which includes a first multi-pulse having a plurality of first pulses corresponding to the first level of the input data and a second multi-pulse having a plurality of second pulses corresponding to the second level of the input data,

wherein

one of the first and second states corresponds to a space formed using an erase pattern including the corresponding one of the first and second multi-pulses having a high erase power and a low erase power for corresponding pulses,

the other one of the first and second states corresponds to a mark formed using a recording pulse including the corresponding other one of the first and second multi-pulses having a high write power and a low write power for corresponding pulses,

the low erase power is greater than the low write power, and

the generating of the recording waveform comprises causing a power level of a leading pulse of the erase pattern to be the same erase power as a power level of a trailing pulse of the erase pattern.

17. (PREVIOUSLY PRESENTED) A method of forming a first state and a second state alternatively and sequentially on an optical recording medium in response to input data having a first level and a second level in an optical recording apparatus, the method comprising:

generating a recording waveform which includes a first multi-pulse having a plurality of first pulses corresponding to the first level of the input data and a second multi-pulse having a plurality of second pulses corresponding to the second level of the input data,

wherein

one of the first and second states corresponds to a space formed using an erase pattern including the corresponding one of the first and second multi-pulses having a high erase power and a low erase power for corresponding pulses,

the other one of the first and second states corresponds to a mark formed using a recording pulse including the corresponding other one of the first and second multi-pulses

having a high write power and a low write power for corresponding pulses,
the low erase power is greater than the low write power, and
the generating of the recording waveform comprises causing a power level of a
leading pulse of the erase pattern to be the low erase power.

18. (PREVIOUSLY PRESENTED) The method of claim 1, further comprising recording the first state and the second state according to the generated recording waveform using a light having a wavelength of substantially 405 nm.

19. (PREVIOUSLY PRESENTED) The method of claim 16, further comprising recording the first state and the second state according to the generated recording waveform using a light having a wavelength of substantially 405 nm.

20. (PREVIOUSLY PRESENTED) The method of claim 17, further comprising recording the first state and the second state according to the generated recording waveform using a light having a wavelength of substantially 405 nm.

21. (NEW) The method of claim 11, wherein the cooling pulse has a cooling pulse power that is less than the low multi-pulse level.

22. (NEW) The method of claim 12, wherein the cooling pulse has a cooling pulse power that is less than the low multi-pulse level.